

Radio Frequency Countermeasures (RFCM)
Increment II
(version 3.0)

Date: 2014-04-16

USAACE - Aviation School

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This System Training Plan (STRAP) is preliminary.
Front end analysis (mission, task, job) is ongoing. USAACE - Aviation School will amend and update this STRAP as details solidify.

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1.0 System Description

Radio Frequency Countermeasures (RFCM) is intended to function as a state-of-the-art, fully integrated RFCM and situational awareness system designed to protect rotary and fixed-wing aircraft against threat radar systems and semi-active missiles for both air-to-air and surface-to-air weapons systems.

RFCM is a light-weight, modular, reconfigurable Radio Frequency (RF) self-protection system that will provide the core assets of an advanced RF warning and counter measure (CM) system. It will protect Army aircraft through the use of active Electronic Counter Measures (ECM) and expendables control.

2.0 Target Audience

Training will be required for the aviation personnel outlined in the following table. Units will conduct all mission training to sustain proficiency and certification of crewmembers operating and maintaining RFCM equipped aircraft.

Target Audience for Radio Frequency Countermeasures (RFCM)				
Functional and Professional Courses	Operator Training School	Maintainer Training School	Additional Training School	Additional Training School
15 - Aviation Officers (General)	X		USAACE	AWSC/SC
151A Aviation Maintenance Technician		X		
15C Aviation All Source Intelligence Officers	X		USAACE	
152D OH-58D Pilot	X		USAACE	

152H AH-64D Pilot	X		USAACE	AWSC/SC
153D UH-60 Pilot	X		USAACE	AWSC/SC
153M UH-60M Pilot	X		USAACE	AWSC/SC
154C CH-47D Pilot	X		USAACE	AWSC/SC
154F CH-47F Pilot	X		USAACE	AWSC/SC
155A Fixed Wing Pilot	X		USAACE	AWSC/SC
155E C-12 Pilot	X		USAACE	AWSC/SC
15F Aircraft Electrician		X		
15J OH-58D Armament/Electronic /Avionic Systems Repairer		X		

15K Aircraft Components Repair Supervisor		X		
15N Avionics Mechanic		X		
15R AH-64 Repairer		X		
15S OH-58D Repairer		X		
15T UH-60 Repairer		X		
15U CH-47 Repairer		X		
15Y AH-64D Armament / Electrical Systems Repairer		X		
SQI I Tactical Operations Officer	X		TACOPS	AWSC/SC

SQI C Instructor Pilot	X		IPC	
SQI G Maintenance Test Pilot	X		MTPC	MTPC

Legend	
AWSC	Aviation Warfighting Simulation Center
IPC	Instructor Pilot Course
MTPC	Maintenance Test Pilot Course
SC	Simulation Center
USAACE	United States Army Aviation Center of Excellence

NOTE: The target audience for RFCM training should include all current and future aircraft configurations (i.e., OH-58F and AH-64E) in the Army inventory for which MOSs have not been developed at the time of writing.

3.0 Assumptions

The following list of assumptions underlies the training concept and training strategy. These assumptions were derived from preliminary analysis related to the Materiel Requirements Documents (MRDs) and comparative analyses of similar systems:

- a. The Operator and Maintainer Training Support Package (TSP) for system hardware and software will be developed subsequently to allow for testing each iteration or build of the system.
- b. Personnel operating, reprogramming or maintaining the system will have the proper security clearance, but the RFCM itself will not cause an increase in security requirements.
- c. Any software changes directed toward operation or maintenance will be user friendly and follow an open system approach.
- d. All Technical Manuals (TMs) and Interactive Electronic Technical Manuals (IETMs) which conform to applicable military and/or commercial specifications, will be validated, verified, and delivered to the user.
- e. The Materiel Developer (MD) will provide the New Equipment Training Team (NETT). The NETT will develop the training support package that includes all instructor, student, and supplemental material for RFCM training.
- f. The Training Support Package (TSP) will be developed concurrently with the system hardware/software via the NET TSP and Training Test Support Package (TTSP), validated during Initial Operational Test and Evaluation (IOTE), and in place when system fielding begins.
- g. RFCM training will encompass all hardware and software specific to the operation, employment, and maintenance of RFCM.
- h. The NET TSP, will consist of Lesson Plans (LPs), TMs, IETMs, and Computer Based Instruction Training (CBIT). Training must be developed in accordance with TRADOC Regulation 350-70, TRADOC Pamphlet 525-8-2 wC1 06Jun2011, and appropriate software specifications and must be validated and approved by the government prior to site delivery.
- i. Sustainment/self-development training will be developed based on the NET TSP.
- j. The system must have the capability of being trained at the unit, in both garrison and field environments.

k. The ADDIE process, documented in the Training Development Capability (TDC), will determine the final training strategy and the appropriate mix of required training materials and the tasks to be trained.

l. United States Army Aviation Center of Excellence (USAACE), Directorate of Training and Doctrine (DOTD) is responsible for integrating training strategies into this STRAP.

m. The Materiel Developer is responsible for the development of Training Aids, Devices, Simulators, and Simulations (TADSS) for the RFCM and ensuring aircraft concurrence.

n. The Materiel Developer is responsible for upgrading existing TADSS, both software and hardware, to incorporate RFCM characteristics.

o. The Materiel Developer will provide all logistical support, to include lifecycle sustainment, for the TADSS.

p. The Materiel Developer will conduct a Post Fielding Effectiveness Analyses (PFEA) 18 months after fielding of the total RFCM systems. The materiel developer will also provide changes and new training material, hardware, software, and TADSS that are identified as needed to resolve the issues documented in the PFEA and other studies and evaluation.

q. There will not be enough fielded units of RFCM to support a 100% fielding to all aircraft in the fleet and DA will institute an ARFORGEN operation cycle to equip and maintain a deployment ready level of these devices.

r. Upon completion of NET timelines which are funded by the MD, Displaced Equipment Training (DET) funding will be required for personnel in units who receive this equipment installation upon activation in the Army Force Generation (ARFORGEN) cycle this will be funded by the MD or the receiving unit.

s. Threat emitters will be available at homestation to enable realistic sustainment training.

t. Units must have access to computers with web browser capability and that are stand alone.

4.0 Training Constraints

Constraint Type	Probable Impact	Mitigating Efforts
Budgetary		
	Current budgetary constraints may force a reduction to money applied to NET/DET training teams. This will impact the quality and capability of training teams to reach the field to support installation and ARFORGEN cycling of equipment per the peace time CONOP currently being developed by DA G 3/5/7.	<p>Ensure NET/DET training covers all systems. This includes CMWS, ATIRCM, CIRCM, and RFCM.</p> <p>Ensure training information is captured on IMI such as CBAT and future developments of the IMI program.</p> <p>Ensure school house IMI training has multi-role capability so it does not train one version of a specific system.</p> <p>Create stand alone training information that can be provided to local SMEs to assist in training organizations thus mitigating travel costs if they become</p>

		constrained in the future.
Personnel		
	<p>Upon completion of new equipment fielding and maintenance support requirements, the responsibility of maintaining this and other ASE systems on the aircraft will shift from contracted SMEs to military personnel. This transition has the potential to create longer wait times for repairs of ASE at the operational level due to lack of troubleshooting training at the institution and in the field.</p>	<p>Ensure that maintenance focused TADSS devices are fielded as soon as possible to support training personnel in troubleshooting procedures.</p> <p>Training personnel on common RFCM failures will lessen maintenance availability issues for installed systems and maximize training availability of the RFCM.</p> <p>Provide updates to IMI for ASE training to crew members and maintainers in the field which includes common faults and isolation processes which will support training of personnel in the field.</p>

Training Equipment		
	<p>Insufficient numbers of institutional TADSS will result in functionality and availability issues that will impact training value. In addition, current institutional TADSS are based solely on the system and therefore lack upgradability when the systems are upgraded or improved.</p>	<p>Develop TADSS systems to support maximum throughput of personnel in institutional training courses.</p> <p>Develop and field a non-systems based TADSS device that incorporates all ASE systems into a holistic training environment that can simulate actual aircraft operations which can be upgraded and expanded as necessary.</p>
Fidelity of Simulation		
	<p>Lack of fidelity in the simulation of system operation or maintenance could lead to negative habit transfer.</p>	<p>Ensure that training systems replicate theory of operation in the unclassified realm as accurately as possible so as to allow trainers to highlight a system's</p>

		capabilities and vulnerabilities in classified training prior to simulated use.
<i>Equipment Density</i>		
	Due to the expense of fielding this system, a good portion of the field will not have RFCM on their aircraft until they enter the Train phase in the ARFORGEN cycle or they deploy to an operational theater.	<p>This system will require a NETT/Mobile Training Team (MTT) to deploy and provide training for units fielded RFCM.</p> <p>Fielded systems will be upgraded to reflect the RFCM capability.</p> <p>Maintenance training will require some form of hands on as well as IMI based training to sustain knowledge in the field.</p>
<i>Number of Personnel to be Trained</i>		
	RFCM will require that a high percentage of a unit's personnel be trained. As units enter	Ensure that Command emphasis reinforces the importance of RFCM training events and

	the train/ready phase of the ARFORGEN cycle, there will be a large amount of personnel that are not proficient in maintaining RFCM.	Soldiers are held accountable for being trained to operate and maintain the system.
Command Guidance		
	<p>Since RFCM will be constantly in refueling, the Commander needs to be aware of the training issues related to the system.</p> <p>Note: Due to fiscal constraints, units will be fielded RFCM late in their ARFORGEN cycle.</p>	<p>All commanders and key leaders of units receiving RFCM should be provided training NLT 90 days ahead of fielding to enable appraisal and evaluation of RFCM and to allow formulation and integration into the unit's training program. Ideally, this will be based on the unit's UTM cycle and occur NLT mission analysis and before the commanders' dialogue.</p>

a. Manpower/Force Structure- The system shall not require an increase in crew size, maintenance manpower, nor support personnel requirements.

b. Training Equipment- Additional training assessment may be required to determine the need for new training devices, simulators, simulations, training material, and modifications to current simulators and simulations which may be required to support RFCM training. The proponent for training development, USAACE, DOTD, will select and prioritize device requirements, development, and fielding of training systems for RFCM.

c. Human Factors- Risk assessment to identify potential human factors relating to RFCM operation will be required and may lead to additional training requirements. Conduct risk analysis to determine system safety requirements (i.e., preventive maintenance to reduce risk of component failure). Use Army Safety Management Information System (ASMIS-1) to assist in identifying potential component failures. Recommendation: Aviation Branch Safety Officer will conduct Risk Assessment of overall training Program of Instruction (POI) and assign risk assessment codes in accordance with TRADOC Reg 350-70.

d. Soldier Survivability- Incorrect operation or maintenance of RFCM could significantly impact Soldier survivability. Training shall ensure that users are knowledgeable of potential hazards and control measures for RFCM equipment they may have occasion to use.

e. Personnel Resources- Personnel resources for RFCM training must come from the Active Army and Reserve Component resources. The training equipment, components, and devices must be provided in sufficient quantities and within the appropriate time frames to support operational testing and fielding.

NOTE: The operation and maintenance of training devices and associated software must not require aptitude, education, or training that exceeds the target audience capabilities.

5.0 System Training Concept

The training concept adds RFCM to existing Aviation units. The training system will support NET, Institutional, Operational and Self-Development Training and augment existing training for Aircraft Survivability Equipment (ASE). Training will be developed using the Analysis, Design, Development, Implementation and Evaluation (ADDIE) process and distributed learning (DL) media should be used when analysis supports the application of DL methodology. The Materiel Developer will require the contractor to develop, update, and provide a complete training system (e.g., individual and collective task analysis, institutional training devices, embedded training systems, simulator upgrades, simulations, Instructor and Key Personnel Training (I&KPT), NET, IMI, CTC interoperability, etc.). After the I&KPT completion, the NET TSP will be the foundation for Operator, Maintainer, and Support (OMS) personnel training and integrated into existing institutional courses. Institutional and operational training programs should capitalize on TADSS technology and other devices that support efficient and effective training. Simulators are utilized in both the institutional and operational training domains and will be required to sustain skills taught through NET and institutional training. As a result, all existing and future simulators must be updated to include RFCM capabilities. Additionally, operator/maintainer training will require the utilization of computer-based Aircraft Survivability Equipment training (CBAT) to sustain knowledge of ASE capabilities, vulnerabilities, limitations, and individual tasks. Due to limited fielding of the RFCM and the unavailability of actual equipment for training of maintenance tasks, maintainer training will require that TADSS are available to execute training when actual RFCM is not. Collective training for the RFCM will involve the use of the Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) with specific emphasis placed on constructive and virtual technologies. The RFCM will require a live force-on-force training capability and threat emitters will be available at home station to enable realistic sustainment training. Self-development training will rely heavily on the exploitation of reach back to the institution and the use of distributed learning programs such as CBAT for sustainment of skills.

5.1 New Equipment Training Concept (NET)

The Materiel Developer, in coordination with the training developer, will ensure a NET support package is developed to support all aspects of RFCM training. The Materiel Developer and the proponent will ensure the TSP remains current throughout the lifecycle of the RFCM and that any revisions are provided to the Army Training Support Center (ATSC)/Central Army Registry (CAR) and any other distribution sources as they are identified. The Materiel Developer will provide the materials and instructors to conduct NET.

The NET will be provided to government Instructor and Key Personnel (IKP) from USAACE and 128th Aviation Brigade, unit trainers and/or the appropriate designated site for mission/skill level training. The IKPT is the technical training provided by NET personnel or RFCM contractor personnel to support the initial transfer of knowledge on the operation and maintenance of the RFCM system as a means of establishing a training capability within proponent schools. The TSP will be used to "train the Institutional Trainer" and will be the foundation for institutional and unit sustainment training.

The NET Support Package will include Technical Manuals, Task List, Program of Instruction (POI), Lesson Plans, Student Guides, and Web-Resident/Web-Downloadable Training Modules on the operation and maintenance of the RFCM and other Computer Based Training (CBT) materials. The NET will also provide TADSS for Institutional and Operational training. The IKPT courses update skills of personnel already qualified in the appropriate Military Occupational Specialties (MOS) and include instructional materials that can be added to existing institutional, operational, and self-development training.

The Materiel Developer will provide updated Multimedia TSP. Subsequent NET resulting from procedural or equipment changes will be added to the existing RFCM courses and will be provided at the institution or unit through Distributed Learning (DL). Job Aids will be submitted to Army Training Support Center (ATSC) Graphic Training Aids (GTA) program for CAR load and life cycle maintenance. The Program Manager (PM) will be responsible for providing any needed Operator/Crew/Maintainer training support via a NETT.

5.2 Displaced Equipment Training (DET)

The RFCM will replace the current aircraft survivability equipment: AN/APR 39 Radar Signals Detecting Set. The RFCM maintainer IMI will replace the current training equipment for the displaced equipment. The fielding for the RFCM is scheduled for active units and reserve components in accordance with applicable ARFORGEN guidance from DA 3/5/7. The NETT will be scheduled according to the materiel fielding plan which will be based on ARFORGEN train and ready cycles. The Materiel Developer will provide the NETT and the training materials to both AA/RC units as applicable. The Materiel Developer will also ensure that existing TADSS are upgraded with RFCM configurations. The Materiel Developer will provide appropriate Field Manuals (FMs), Training Manuals (TMs), SCORM Compliant DL products and logistical support for Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) TADSS. The system training support infrastructure that will be required to support the RFCM training products and strategy will be the same as the existing ASE infrastructure, with the exception of the RFCM's embedded training capability. The Materiel Developer will also include additional Computer Based Aircraft Survivability Equipment Trainer (CBAT) lessons for both operators and maintainers.

5.3 Doctrine and Tactics Training (DTT)

The RFCM will replace or augment existing ASE systems on the aircraft. The RFCM institutional and operational training will become part of existing ASE training. The RFCM DTTs require the use of the Live, Virtual, Constructive, Gaming- Integrated Training Environment (LVCG-ITE) to meet the requirements for the individual aircraft programs of instruction (POIs), Unit Combined Arms Training Strategy (CATS), and Readiness Level (RL) Progression.

The current individual training POIs will be augmented by the RFCM lessons. Institutional professional development classes and simulated mission scenarios will include the RFCM capabilities in both virtual and constructive environments. The operational training will build upon the institutional training and expand upon the virtual training environment by including embedded training capabilities for home station training and electronic/gunnery range activities. The RFCM embedded training capability will make use of existing current Army mission planning systems and onboard systems without the requirement for special ranges and equipment. RFCM will require training for proper use of maneuvers during training flights. The embedded training capability will record the training event and the crew's responses so that it can be played back as part of an after action review.

Connectivity with simulated forces, real systems, and virtual systems will provide realistic operational training and mission rehearsal using all three levels of simulations. Mission Essential Task List (METL) items can be practiced and evaluated at the units as well as Combat Training Centers (CTCs). During collective, Force-on-Force training in a live, simulated environment, such as CTCs, RFCM must be safed through a training mode or other system to ensure protection of opposing forces and friendly training forces. The array of simulated threat emitters, combined with electronic ranges and live fire, will produce the needed environment to meet the CATS requirements. The RFCM either replaces or augments existing ASE systems and there will be no changes in current Aviation Doctrine. However, depending on the threat, terrain, time of day, meteorological conditions, aircraft, etc., tactics, techniques and procedures (TTPs) may change and must be trained and practiced in the LVCG-ITE.

5.4 Training Test Support Package (TTSP)

USAACE and DOTD will coordinate and integrate original equipment manufacturer (OEM) developed materials into the Training Test Support Package (TTSP) which will meet or exceed the requirements outlined in TRADOC Regulation 350-70 and DA Pamphlet 73-1, para 6-61, using the methods described in the Army Learning Model TP 525-8-2 w/C1 06 June 2011, prior to each phase of User Testing (UT). The matured TTSP becomes the production TSP which will be the foundation for Institutional, Operational, and Self-Development training. The TTSP will contain the following materials (items with an asterisk are required to be included in the Production Training Support Package):

- a. Approved System Training Plan (STRAP)
- b. Test Training Certification Plan
- c. Training Schedule
- d. Trainer Data Requirements
- e. Soldier Training Publications or Changes
- f. CATS Tasks with changes
- g. Target Audience Description
- h. Critical Task Lists (CTLs)
- i. Crew Drills
- *j. Programs of Instruction (POIs) for each MOS affected
- *k. Lesson Plans
- *l. Student Guides
- *m. Test
- *n. Flight Training Guides
- *o. Training Aids, Devices/Simulators, and Embedded Training Components
- *p. Interactive Multimedia Instruction (IMI)

NOTE: An asterisk (*) indicates the mandatory components of a TSP.

6.0 Institutional Training Domain

Institutional RFCM training courses for operators and maintainers will be taught at USAACE and 128th Avn Bde, Fort Eustis, VA, in accordance with the Army Campaign Plan. Training is developed per the guidance in TRADOC Regulation 350-70 and the Army Learning Model TP 525-8-2 w/C1 06 June 2011 and designed to be safe, mission focused, derived from the variety of missions expected to be performed, and based on aviation doctrine.

Institutional training and instruction will be performance oriented, emphasizing hands-on practical exercises, and will prepare aviation soldiers and units to achieve and sustain proficiency of individual and collective tasks. Standards are determined from the Mission Essential Task List (METL), the Digital Training Management System (DTMS), Combined Arms Training Strategies (CATS), Drills, Aircrew Training Manuals (ATMs), and Soldier Training Publications (STPs). Training will be designed to be sequential by steps/procedures. The new CATS will include short and long-range strategies for institutional, operational and self-development training. Recognizing that numerous training options are available within the synthetic training environment, an integrated training strategy describing the use of available Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) resources is required.

Institutional and unit training programs should capitalize on TADSS technology and other devices that support efficient and effective training.

6.1 Institutional Training Concept and Strategy

The RFCM training system will use a hierarchical building block approach to provide task introduction, reinforcement, and evaluation. Training will include provisions for peacetime and mobilization and will minimize facility requirements. The final approved instructional programs will be based on knowledge gained from events such as Task Analysis (TA), Program Analysis and Evaluation (PAE), Leader Development (LD), Initial Operational Test (IOT), Training Effectiveness Analysis (TEA), and Cost and Training Effective Analysis (CTEA) input. Appropriate Institutional and Unit/Sustainment courses of instruction, new Soldiers Manuals (SMs), and Flight and/or Training Guides (FTG/TGs) for applicable MOS/ASI/SQIs and AOCs will be developed as technical data becomes available to the applicable TRADOC schools. Applicable ARTEPs will be revised as appropriate.

The NET TSP will be updated as necessary by the MD upon completion of the IKPT. The updated NET TSP will be the foundation for institutional Operator, Maintainer, and Support (OMS) personnel training. The NET TSP will also be modified as required and integrated into the Officer/Warrant Officer Professional Development courses (Aviation BOLC/CCC/AWOAC/AWSC) and for Maintainer Advanced Individual Training (AIT), Advanced Leader Course (ALC), Senior Leader Course (SLC) and Non-Rated Crewmember Instructor Course (NCIC) as appropriate, to provide leader awareness of the capabilities and limitations of RFCM.

128th Avn Bde

The maintenance training courses shall be prepared at the functional level and shall include classroom presentation using IMI and numerous hand-on-equipment practical exercises. The instruction will provide the student with a working knowledge of the major assemblies of the RFCM, sub-assemblies, Line Replaceable Units (LRUs), and Line Replaceable Modules (LRMs). Maintenance concepts, preventive maintenance, equipment check-out, troubleshooting, fault detection and isolation, and appropriate Aviation Unit Maintenance (AVUM) corrective action utilizing the Technical Manual, TMDE, peculiar Ground Support Equipment (PGSE), and Aviation Ground Support Equipment (AGSE) shall be trained. The functions of Built-in-Test (BIT) and correct interpretation of panel displays will be taught and include BIT and Fault Detection/Location System (FD/LS). Higher skill level courses involving supervision, inspection, advanced diagnostics, and troubleshooting will be taught in the appropriate ALC.

Training Equipment Requirements: Analysis and courseware design will

determine the need for additional equipment. If it is determined that additional training equipment is needed, USAACE and PM-ASE will update the STRAP and CPD to reflect the requirement.

6.1.1 Product Lines

Operator training will be located at the USAACE, Fort Rucker, Alabama. Courses that will include instruction on RFCM are the Flight School XXI courses including the Flight School, Tactical Operations (TACOPS) Officer course, Maintenance Test Pilot (MTP) Course, Captains Career Course, Instructor Pilot Course (IPC), and Pre-Command Course. Course media will use a combination of classroom instruction, practical exercises, Interactive Multimedia Instruction (IMI), Pre-flight instruction, reprogramming, and aircraft simulators. The operator will gain knowledge on the operation and capabilities of RFCM which complements the entire suite of ASE. Practical exercises, gaming, and battle simulations will train the operator on employment and capabilities of the RFCM. These exercises will also provide an opportunity to plan missions and evaluate the tactics used during threat engagements. Embedded capabilities will enable the student operator and rated operator to engage preprogrammed threat systems during training flights. The operator courses will not create an Additional Skill Identifier (ASI) or create an increase in Manpower.

Maintenance training will be located at Fort Eustis, VA, trained by the 128th Avn Bde. The course will include classroom presentations, Interactive Multimedia Instruction, equipment oriented practical exercises and performance evaluations. Topics will (at a minimum) include the following: Component Identification, System Description, Theory of Operation, Maintenance Concepts, Preventive Maintenance, Equipment Checkout, Troubleshooting, Fault Detection, and appropriate corrective actions in accordance with the applicable TMs. Aircraft specific Hardware Trainers, IMI, Standard and Special tools, and RFCM will be included in the block of instruction. Current aircraft platform devices in use at the 128th Avn Bde supporting the CH-47, UH-60, OH-58 and AH-64 will be upgraded to include the RFCM system as determined by the media analysis. During the practical exercises and performance evaluations, students will develop technical proficiency in maintenance operational checks, fault isolation procedures, reprogramming, component replacement, and repairs.

6.1.1.1 Training Information Infrastructure

6.1.1.1.1 Hardware, Software, and Communications Systems

Sustainment training will emphasize DL that can be both operated on the network and operated on stand-alone computer systems. DL packages will be in the form of electronic portable media and will include any procedural or doctrinal changes and any upgrades or other changes to the training for both NIPR and SIPR dissemination. Additional information provided on the SIPR sides will include capabilities, vulnerabilities and limitations of the system for operator knowledge. The materiel developer will create and field the DL packages that involve system-specific upgrades and changes. If DL is not yet embedded on the operational equipment, the units must have access to computers with web browser capability. This will provide a venue for all current and future training packages generated by the materiel developer.

6.1.1.1.2 Storage, Retrieval, and Delivery

Access and storage of RFCM training and information will be made available through one or more of the following locations:

- Training Development Capability (TDC) Database or its replacement
- The Army Learning Management System (ALMS)
- The Central Army Registry (CAR)
- The Digital Training Management System (DTMS)
- The Army Training Network (ATN)

6.1.1.1.3 Management Capabilities

Information and training management capabilities will mirror those of the current ASE training systems. The information systems that allow for the management of digital Training Support System (TSS) products and information on the ASE may include but are not limited to the following: the Digital Training Management System (DTMS), the Army Distributed Learning Program (TADLP), the Army Learning Management System (ALMS), and the Training Support-Materiel Army-wide Tracking System (TS-MATS). The RFCM will be part of the Computer Based ASE Training (CBAT) and available 24/7 via appropriate distribution systems and unit training disks.

6.1.1.1.4 Other Enabling Capabilities

Interoperability and data exchange as required by TSS will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the LVCG-ITE to support the primary components of the TSS Training Information Infrastructure (TII). Additionally, the capability for common communications and data exchange operating environment integral to Brigade Combat Team Modernization (BCTM) would be incorporated into the system as appropriate.

6.1.1.2 Training Products

Institutional training products and procedures must be developed IAW the latest TRADOC Regulation 350-70, the Army Learning Model TP 525-8-2 w/C1 06June2011, and any USAACE/128th Avn Bde supplementation. Training products and processes will be documented in the Training Development Capability (TDC) software suite or any future automation tool that supersedes the current TDC system. Documentation in TDC is a requirement in TR 350-70.

Individuals selected to participate in Force Development Testing and Operational Testing will receive training using the materials contained in the (approved by the appropriate proponents) NETTSP/TTSP in accordance with DA PAM 73-1 Test and Evaluation in Support of Systems Acquisition. At the conclusion of the training, prior to the start of user testing, these individuals will be certified based on the adequacy of the training. The USAACE DOTD will provide an Operational Test Readiness Statement (OTRS) per DA PAM 71-3 Test and Evaluation Policy and Test Officers Procedures Manual (TOPM) 73-151 to certify training for operators. The 128th Avn Bde will verify to USAACE DOTD that training is adequate for maintainer and support personnel.

6.1.1.2.1 Courseware

The Materiel Developer will provide a RFCM multi-media training support package (TSP) that can be used to support institutional training at the 128th Avn Bde/USAACE, operational and unit sustainment training, and self-development training. The PM will also be responsible for upgrading the TSP to reflect engineering changes to RFCM. The TRADOC developed TTSP package will detail the concept of operations, effects on mission planning, capabilities and limitations of the equipment, and broadcast declarations received by the system.

6.1.1.2.2 Courses

RFCM augments existing ASE systems on the aircraft and the subject matter will be placed into existing ASE training lessons. The USAACE DOTD and 128th Avn Bde, as appropriate, will evaluate and validate all OEM commercial training. Upon completion of IOT, after DOTD evaluation of OEM commercial training task analysis, development, and training validation, a training approval memorandum will be submitted to the Director of DOTD for approval of the OEM commercial operator training courses.

Flight School XXI-Operator training will be designed and developed for all aviators, maintenance test pilots, and instructor pilots. The institutional/individual training currently consists of introduction to ASE; including switchology, symbology, and run-up and shut-down procedures. ASE and RFCM are also presented in the simulators and mission simulators.

Advanced Operator Training-When the operator begins training in his advanced aircraft, ASE/RFCM training will be presented in the classroom and in simulated flight training. The capabilities, vulnerabilities, and limitations of RFCM will be presented during simulated constructive and virtual exercises.

Maintainer Training-MOS specific training for the 15N, 15J, 15Y, 15F, 15K, 15R, 15T, 15U and 94R will remain the same with the inclusion of RFCM tasks such as troubleshooting, repair and replacement, system functions, and performing BIT tests. The functions of Built-In-Test (BIT) and correct interpretation of panel displays will be taught. Maintenance instruction will provide the student with a working knowledge of the major assemblies, sub-assemblies, Line Replaceable Units (LRUs), and Line Replaceable Modules (LRMs). The maintenance training courses shall be prepared at the functional level and may include classroom presentation using IMI and numerous hands-on-equipment practical exercises. Other high skill level courses involving supervision, inspection, advanced diagnostics, and troubleshooting, will be taught in the appropriate ALC. If required, depot-level maintenance training will be provided to establish a depot-level repair capability for new or modified equipment, depot maintenance plant equipment, Test, Measurement, and Diagnostic Equipment (TMDE), and Depot Maintenance Work Requests (DMWR). The NET manager will review DMWR or best commercial practice contractor material for training impact, and as required, develop, plan, program, coordinate, and monitor depot-level maintenance training, to include training for TMDE.

Professional Development Courses-Officer and Warrant Officer professional

development is the responsibility of the USAACE. During these courses, in both constructive and virtual simulation exercises, the capabilities and limitations of the RFCM can be addressed during mission planning. The TACOPS professional development course will accurately present RFCM functions and the employment of RFCM for mission planning and exercises. The reconfigurable Aviation Combined Arms Tactical Trainer (AVCATT) with its tactical and logistic operations center modules will be used to provide repetitive, cost efficient, and realistic task loaded combined arms exercises.

Unit Force-on-Force Exercises-Units can practice the limitations and capabilities and tactical employment of the RFCM in live and virtual training environments. During live training, actual countermeasures can be deployed on electronic ranges to train the full capabilities of the RFCM. Advanced threat emitters will provide the stimulus to the ASE/RFCM systems and appropriate countermeasures will be employed. Training and actual countermeasures and decoys (e.g., flares and chaff) will be used for collective training in the live environment.

6.1.1.2.3 Training Publications

The Materiel Developer will develop training products in coordination with the proponent. All TMs, user manuals, and STPs shall be created prior to NET and institutional training is to be available for download from an AKO or other appropriate site. The RFCM TSP will provide a structured training program that supports Soldier/leader and staff training. All task development will be completed using the Training Development Capability (TDC) database. This will facilitate the production of training support products for delivery with TSS and the ability to rapidly update tasks and their instructional products using digital information.

TMs for Operators and Maintainers will be produced to military standard (MIL STD) and undergo a contractor validation and Government verification process to ensure accuracy and completeness. Operator, field, and sustainment levels of maintenance will be called out in the Maintenance and Allocation Charts (MAC) as applicable in the Field and Sustainment Maintenance TMs. All calibration requirements, procedures, and schedules will be identified in operator and maintainer TMs.

6.1.1.2.4 Training Support Package (TSP)

- a. Training Support Package - The current ASE TSP will be augmented by the RFCM tasks. Equipment that the RFCM replaces will be deleted from the ASE training package once full fielding is complete.
- b. Collective/Warfighter TSP - The RFCM will augment existing collective TSPs. A complete set of training products and materials will be provided to the unit during NET. This material will be added to the unit's existing ASE training program. The maximum use of LVCG-ITE will be used to train and sustain ASE/RFCM critical collective tasks.
- c. Common or Share Task TSP - The RFCM will be included in the existing TSP for ASE for both operator and maintainer.
- d. TADSS TSP - The RFCM will be added to existing ASE systems of operators and maintainers. Current constructive, virtual, and live simulations will be updated to include RFCM. Threat emitters will be developed that will stimulate the RFCM and training countermeasures will be used along with actual countermeasures to include training and actual flares and chaff.
- e. TSP for collective tasks trained at the unit - For the USAACE the RFCM collective tasks will fall under the ATM task of "Operate ASE." For the 128th Avn Bde, revised TSPs will be required for the RFCM developed at the ELO level. The maintainer collective tasks will include RFCM in the ASE systems maintenance tasks.
- f. TSP for individual tasks trained at the unit - The ASE critical tasks will include RFCM for both the maintainer and the operator. The STRAP will be augmented to include training and live flares and chaff for HST and CTC rotations.
- g. Institutional TSP - The RFCM training materials, TADSS, etc., will be included in existing MOS training courses.
- h. Operational TSP - This TSP will be developed for the IOT&E.
- i. Self-Development TSP - Current Self-Development TSPs for the affected RFCM MOSs will be updated/revised as needed.
- j. Training Test Support Package - The contractor developed RFCM TTSP will be provided to the tester for use in evaluating training for the RFCM. The TTSP will include the POI, Soldiers Manuals, Trainers Guides, CATS changes,

and Training Devices. The TTSP will also include embedded training components, training/actual countermeasures/decoys, threat emitters, technical documentation, and training extension materials.

6.1.1.3 TADSS

6.1.1.3.1 Training Aids

- a. Operator Training Aids- Institutional training aids will include diagrams (both printed and computer modeled) as required to teach basic RFCM operation.
- b. Maintainer Training Aids- Institutional training aids will include diagrams (both printed and computer modeled) as required to teach basic RFCM operation.

6.1.1.3.2 Training Devices

Training conducted with ASE training devices can be effectively used to train tasks associated with mission planning, decision making, and the tactical execution of unit missions. This allows the unit leaders to practice and rehearse different missions before deployment. During the AAR, the leader can identify weaknesses and retrain to correct weaknesses in a low cost environment to achieve the desired level of proficiency. The combination of ASE training devices and other live, virtual training will produce a synergistic effect on a unit's tactical proficiency. It will also permit post training and mission rehearsal of tactical operations that cannot be trained in the field because they are either too hazardous, expensive, or lack appropriate training facilities.

a. Operator Devices- Institutional training aids will include mock-ups, static displays, actual equipment, and desktop trainers as required to teach basic RFCM operation. Desktop trainers will allow students to practice cockpit procedures that are steps in TRADOC selected critical tasks and must accurately replicate aircraft functionality to preclude negative habit transfer.

b. Maintainer Devices- Institutional training aids will include mock-ups, static displays, actual equipment, and desktop trainers as required to teach basic RFCM operation. Desktop trainers will allow students to practice cockpit procedures that are steps in TRADOC selected critical tasks and must accurately replicate functionality to preclude negative habit transfer. Maintenance training devices must simulate the physical and functional fidelity necessary to train TRADOC selected critical tasks to applicable TRADOC standards. The primary platform avionics training devices for each airframe will be upgraded to support the RFCM.

6.1.1.3.3 Simulators

Aviators require simulations that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. Key enablers for this vision are a network of common integrated training and operational Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) mission command centric capabilities at home station, combat training centers, and operations over-seas in permissive environments. Pilots need simulators to maintain proficiency in high risk tasks which would certainly include operating their ASE. PM-ASE will coordinate with the PMs for each simulator to initiate upgrades for the inclusion of RFCM. Examples of Operator Simulators that require modification to include RFCM capabilities include, but are not limited to the following:

- AH-64D (Blk I/II) Longbow Crew Trainer (LCT)
- AH-64E (Blk II/III) Longbow Crew Trainer (LCT)
- Longbow Collective Training System
- CH-47F Transportable Flight Proficiency Simulator (TFPS)
- CH-47D Synthetic Flight Training Simulator (SFTS)
- UH-60 A/L Synthetic Flight Training Simulator (SFTS)
- UH-60M Transportable Blackhawk Operational Simulator (T-BOS)
- Flight School XXI Simulators
- Aviation Combined Arms Tactical Trainer (AVCATT)
- CH-47F Cockpit Procedure Trainer
- OH-58D Cockpit Procedure Trainer
- UH-60A/L Cockpit Procedure Trainer
- UH-60M Cockpit Procedure Trainer

Collective simulators must include an interactive and high SAF which models both the ASE and the effect of ASE on enemy systems. Simulators must use geo-specific terrain databases that achieve "fair-fight" interoperability level of fidelity. Achieving fair-fight interoperability will require correlation of terrain, weather, visualization objects databases, and Modeling and Simulation (M&S) fidelity. M&S fidelity is defined as "two or more simulations may be considered to be in a fair fight when differences in the simulation's performance characteristics have significantly less effect on the outcome of the conflict than actions taken by the simulation participants." The AVCATT and the Reconfigurable Collective Training Device (FSXXI) are the collective training simulators used to train at USAACE.

Maintenance trainers will require modification for training restoring RFCM by aircraft. All maintenance trainers will allow the instructors to insert

faults (opens, shorts, etc.) which allow the students to troubleshoot onboard aircraft systems. Maintenance trainers requiring modification to update them to a configuration with RFCM include but are not limited to the following:

- L6: AH-64D Airframe & Engine Drive Train System Trainer
- L7: AH-64D Multiplex, Avionics, Visionics, Weapons & Electronic Systems Trainer
- L10: Crew Station Procedural Trainer
- CH-47: Chinook Avionics Trainer (CAT)
- CH-47D: Composite Maintenance Trainer (CMT)
- UH-60: Blackhawk Avionics Trainer

6.1.1.3.4 Simulations

RFCM source data covering the full operational capability and the logistic requirements must be provided to the National Simulation Center (NSC) for inclusion in all higher level constructive simulations. Modifications to One Semi-Automated Forces (One SAF) will be necessary to reflect the operational capability of RFCM.

6.1.1.3.5 Instrumentation

The live devices for RFCM training will be required to interface with Army Tactical Engagement Simulation System (Army TESS) Training to monitor and record the position, location, heading and weapon events. A Smart On-board Data Interface Module (SMODIM) provides each aircraft with a "kill" and "be killed" capability. The SMODIM processes and transmits data for monitoring and pairing of simulated aircraft weapon events.

If the aircraft is engaged, the SMODIM uses data bus signals from tactical sensors to decode and process the Real-Time Causality Assessment (RTCA) and transmit data back to the Mobile Command Center (MCC) ground station. Global Position System (GPS) and telemetry antennas are part of the Army TESS aircraft components. Once engaged, the SMODIM processes the ph/pk for an RTCA outcome and the TTM provides visual cues. The data is then transmitted by the SMODIM to the MCC on the ground through telemetry antenna.

Live RFCM training solutions will require a Multiple Integrated Laser Engagement System (MILES) implementation. Any instrumentation systems must interoperate with the Army Battlefield Command (ABCS) and provide data in a format recognized by the LVCG-ITE. Compatibility with the Digital Range Training System (DTRS) and the Training Instrumentation System (TIS) will be required to support Force on Force (FOF) and Force on Target (FOT) venues at homestation.

NOTE: SMODIM capabilities vary by aircraft. The AH-64D is currently the most capable. CH-47D and UH-60L do not have data buses so they are only capable of location/hit/kill. Door gun engagements are not tracked or captured. The OH-58D does not have a fully integrated SMODIM so weapons events are not currently transmitted. OH-58F, CH-47F, and UH-60M will have data buses and be able to provide more SMODIM output for use by hosting architectures (i.e., TIS, DRTS, CTCs). Additionally, SMODIMs are currently only available for UH-60 and CH-47 platforms at the CTCS. Efforts are ongoing to establish a homestation training capability and plan, however, there is no homestation capability at present.

6.1.1.4 Training Facilities and Land

Institutional training for the RFCM will not require additional classroom space. Facility requirements for housing and maintaining RFCM are the owning unit's responsibility and no new facilities are anticipated for the maintenance of the RFCM.

6.1.1.4.1 Ranges

Live fire ranges must include threat emitters to enable training task integration in crew qualification and collective gunnery events. Range requirements will be in accordance with the Training Aid being used to execute the training and any additional requirements based on use of countermeasures dispensed. Flares for instance will require a hard deck in fire prone regions, while chaff dispensing will have to be coordinated as required with local controlling agencies to ensure flight surveillance and prevent control radar interference. Chaff and flares may also pose potential environmental problems that will have to be addressed to ensure no environmental damage is associated with their use.

6.1.1.4.2 Maneuver Training Areas (MTA)

6.1.1.4.3 Classrooms

Any RFCM DL products will be developed to be compatible with the Army Distributed Learning Program (TADLP), Classroom XXI classrooms, Digital Training Facilities (DTFs) and Defense Information Systems Agency (DISA) infrastructure specifications. SIPR connectivity may be required to disseminate and display Classified information regarding RFCM capabilities, vulnerabilities, and limitations. Proper procedures for safeguarding this classified information must be in place.

6.1.1.4.4 CTCs

6.1.1.4.5 Logistics Support Areas

6.1.1.4.6 Mission Command Training Centers (MCTC)

6.1.1.5 Training Services

6.1.1.5.1 Management Support Services

6.1.1.5.2 Acquisition Support Services

6.1.1.5.3 General Support Services

The PM is responsible for coordinating Army or contractor support and funding for the required general support services throughout the lifecycle of the RFCM.

6.1.2 Architectures and Standards Component

Architectures and standards will provide the means to ensure integration and interoperability across product lines to support the RFCM.

Architectures are the structure of RFCM training components, their relationship, and the principles and guidelines governing their design and evolution over time. They will be the framework that describes missions, organizations, and system; specifies interfaces and interrelationships amongst its various parts; and facilitates coordination and synchronization with internal and external interfaces. The RFCM training system will be integrated into three types of architecture-organization, functional, and systems-each of which may have operational, technical, and systems views.

6.1.2.1 Operational View (OV)

6.1.2.2 Systems View (SV)

6.1.2.3 Technical View (TV)

6.1.3 Management, Evaluation, and Resource (MER) Processes Component

Where possible, training capabilities developed to support RFCM will use existing facilities and support infrastructure. Training analyses in support of the RFCM will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used both in the institution and in the operational training domain and focused only on mission critical tasks. Training will incorporate the maximum use of simulators/simulation when available to mitigate cost and risk. While developed predominantly for use in the self-development domain, computer-based ASE training will be designed in such a way that it can also be used to support training in the institutional and operational domains.

To determine how to best improve the quality and efficiency of instruction and training, students and instructors will be routinely asked to evaluate training events and products. This allows USAACE to provide the best quality of training with the least expenditure of resources.

6.1.3.1 Management

6.1.3.1.1 Strategic Planning

The development and fielding of the RFCM supports Army Transformation and Training Transformation and is consistent with the guidance found in:

- National Defense Strategies
- Joint Vision 2020
- The Army Plan and other Service Plans
- Future Force Documentation
- TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)

6.1.3.1.2 Concept Development and Experimentation (CD&E)

6.1.3.1.3 Research and Studies

6.1.3.1.4 Policy and Guidance

The documents listed below apply to the design, procurement, and use of the RFCM:

TRADOC Regulations 350-70 and 71-20 Concept Development, Experimentation, and Requirements Determination.

6.1.3.1.5 Requirements Generation

This STRAP supports the draft RFCM CPD currently in development. Due to the security classification of the CPD, it is not attached. No projected date for CPD approval processing has yet been identified.

6.1.3.1.6 Synchronization

The fielding of the RFCM will be synchronized with the following as applicable:

- Unit Set Fielding
- Army Transformation Campaign Plan (ATCP)
- Implementation Plan for Transforming DoD Training
- TADSS Distribution plans

6.1.3.1.7 Joint Training Support

6.1.3.2 Evaluation

As part of the evaluation phase of the ADDIE process, Post Fielding Training Effectiveness Analysis (PFTEA) will be conducted. The purpose of this PFTEA will be to determine how effectively and efficiently RFCM training is meeting user training requirements. The findings will be used to provide lessons learned information on the training development effort associated with training systems and/or product improvement.

A PFTEA will be conducted within 18-24 months of fielding the weapon system. Funding requirements will be identified by USAACE and HQ TRADOC to support the PFTEA process.

Institutional, operational, and self-development training (including training devices) will be analyzed in terms of cost and training effectiveness, user perceptions, user proficiency, and positive/negative aspects.

Other assessment tools will be used and include the following: training evaluation and analyses and monthly status reports.

6.1.3.2.1 Quality Assurance (QA)

QA plans will be used in accordance with each installation's QA plan to ensure proper course auditing is complete. After Action Reviews (AARs) will be used to provide feedback on each course's content and instruction. Feedback will assist USAACE and 128th Avn Bde, Fort Eustis, VA, in understanding and correcting training deficiencies and will provide information that may affect the next set of equipment and/or students. QA evaluations of institutional courses are typically conducted every 2-3 years.

6.1.3.2.2 Assessments

6.1.3.2.3 Customer Feedback

The following tools will be used:

Electronic media for surveys, help desks, collaboration, interviews, and questionnaires as applicable. Surveys are administered following each NET or DET training event to collect feedback from the field regarding effectiveness and efficiency of the training. Course critiques are collected at the end of each institutional training course. The results gleaned from these sources will provide lessons learned information on the training development effort associated with training systems and/or product improvement.

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Training developers will use AARs described above to provide course material, as well as functional use evaluations. Training developers will use Center for Army Lessons Learned (CALL) documentation to analyze lessons learned from the field and will incorporate those lessons into RFCM training as needed.

6.1.3.3 Resource

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Manpower - TD</u>							
Contractor		N/A	160K	140K	140K	140K	140K
Civilian		N/A	40K	40K	20K	20K	20K
Enlisted		N/A	N/A	N/A	N/A	N/A	N/A
Warrant		N/A	N/A	N/A	N/A	N/A	N/A
Officer		N/A	N/A	N/A	N/A	N/A	N/A
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Civ Pay		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	10K	10K	10K	10K	N/A

Total		0	210K	190K	170K	170K	160K
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NOTE: NET/DET totals may include funding for more than one system. ASE is generally installed as a package and this funding stream is combined with all ASE systems.

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>New Equipment</u> <u>Training</u>							
Contractor		N/A	160K	160K	160K	160K	160K
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	40K	40K	40K	40K	40K
Classrooms		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
AC/DC Power		N/A	N/A	N/A	N/A	N/A	N/A

Printing		N/A	5K	5K	5K	5K	5K
Total		0	215K	215K	215K	215K	215K

Item Resourced	Prior Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Training Products</u>							
Training Pubs		N/A	N/A	N/A	N/A	N/A	N/A
TSP		10K	160K	160K	160K	160K	20K
IMI		35K	100K	35K	35K	35K	100K
ETM		N/A	N/A	N/A	N/A	N/A	N/A

STP		N/A	N/A	N/A	N/A	N/A	N/A
IETM		N/A	N/A	N/A	N/A	N/A	N/A
ARTEP/MTP		N/A	N/A	N/A	N/A	N/A	N/A
Printing		10K	10K	10K	10K	10K	10K
Distribution		10K	10K	10K	10K	10K	10K
Total		65K	280K	215K	215K	215K	140K

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>TADSS</u>							
Training Aids		N/A	N/A	N/A	N/A	N/A	N/A
Devices		300K	300K	300K	300K	65K	65K

Simulators		9M	100K	100K	100K	100K	100K
Simulations		N/A	N/A	N/A	N/A	N/A	N/A
GTA		N/A	N/A	N/A	N/A	N/A	N/A
Software		N/A	N/A	N/A	N/A	N/A	N/A
Trng Equip*		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
Printing		N/A	N/A	N/A	N/A	N/A	N/A
Shipment		N/A	20K	20K	20K	20K	5K
Sustainment		N/A	5K	5K	5K	5K	5K
Total		9.3M	435K	435K	435K	190K	185K

7.0 Operational Training Domain

The objective of ASE/RFCM operational training is unit and individual/crew combat readiness-the development of lethal teams, Soldiers, and leaders. Commanders continue to employ the principles of Army training to train mission-essential tasks at the larger and smaller unit-level. Unit training will be experiential, hands-on and standards based. The intent will be to provide leaders, units, and Soldiers with a realistic, operationally relevant training environment that replicates conditions requiring decisive action. Commanders will continue to employ the principles of Army training to train mission-essential tasks. Training of unit leaders will be accomplished by teaching and sustaining proficiency in individual and collective leader tasks. Live exercises at home station, local training areas, maneuver CTCs, and deployed training sites will be required to validate proficiency. The commander determines key collective tasks that support the unit's Mission Essential Task List (METL) and are essential to mission accomplishment. Training conditions and standards are based on the appropriate Unit Training Plan (UTP).

Meeting these requirements will require an integrated enhanced Training and Leader Development Model, enabled by the TSS that will link the Soldier and leader to the centers and schools and the CTCs through a Global Joint Training Infrastructure (GJTI) and the Integrated Training Environment (ITE). Units will conduct pre-deployment training at home stations and CTCs. They will also conduct rehearsal en route to the Area of Operations (AOs), while executing the mission in the AO, and during transition. During each phase of training, Soldiers will receive support from schools and centers.

7.1 Operational Training Concept and Strategy

Sustainment training for operators has been a difficult problem when training ASE. The skills and knowledge required to effectively employ ASE require constant reinforcement. Therefore, operational skills need to be reinforced in simulators, which must be kept up to date with the proper ASE systems and software updates to replicate the functions of the ASE against a threat in the unclassified arena. Section 6.1.1.3.2 covers this in more detail because most of the simulators used in the institution are the same as the simulators used for sustainment training. Sustainment training will be the responsibility of the unit commander. Training will be conducted by the leaders (individual through company). TSPs delivered with the RFCM include proponent designed scenarios which support CATS, and can be augmented with locally designed training scenarios to support training.

In addition, operator sustainment training will use CBAT or another IMI program to sustain operator knowledge of ASE capabilities, vulnerabilities, limitations, and individual tasks. This IMI must be maintained for the entire lifecycle of the RFCM program while the equipment is fielded to the force.

Sustainment training for Soldiers assigned to maintain RFCM may require a different training strategy. Maintenance training of most Army Aviation systems depends on maintenance personnel working on the system while it is installed on the aircraft to maintain their skills. This provides troubleshooting, removal and replacement, and validation of work through maintenance operational checks (MOCs) to complete the loop on training. In other words, maintenance skills depend on working on the aircraft to sustain skill proficiency. By fielding RFCM to only a limited number of aircraft during the ARFORGEN process, maintainers in non-fielded organizations will not be able to work on actual aircraft to maintain proficiency in the task of replacing these LRUs. Therefore, TADSS are required for units scheduled to receive RFCM, but do not have the equipment. RFCM may require a permanent NET/DET team to conduct maintenance training during the ARFORGEN cycle when the equipment is installed on the aircraft to maintain their skills. This provides troubleshooting, removal and replacement, and validation of work through maintenance operational checks (MOCs) to complete the loop on training. In other words, maintenance skills depend on working on the aircraft to sustain skill proficiency. This NET/DET team will have to carry a RFCM TADSS with them when visiting a new unit. This solution comes with a new expense for transportation and the current version of TADSS devices was not developed to support this sort of concept when it was initially fielded.

Collective Operator, Maintainer, and Support (OMS) skills and proficiency will be trained and sustained through simulation exercises with other combined arms players whenever possible. However, the lack of combined arms resources and prohibitive Operations Tempo (OPTEMPO) costs, necessitate the need for organizational training using the Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) with emphasis on constructive and virtual technology. RFCM must be included in the current Aviation Combined Arms Tactical Trainer (AVCATT). RFCM's effect on missiles needs to be reflected in the semi-automated forces used in the LVCG-ITE coordinated with PEO-STRI. RFCM will require a live force on force training capability. RFCM itself must be capable of being safed in the live force on force mode to protect OPFOR Soldiers from being injured by inadvertent countermeasure emissions.

Exportable training support packages, Aircrew Training Manuals, Soldier training publications, DTMS, CATS, interactive multimedia instruction, training aids, desktop/part task trainers, procedural trainers, flight simulators, live force on force devices, and collective simulation capability are the products that will be available for the commander to train and sustain individual and collective skills. Commanding General (CG) USAACE and training developers ensure that sustainment training requirements for the RFCM are integrated into the CATS.

7.1.1.1 Product Lines

The product lines will provide the capabilities that trainers and Soldiers need to conduct training in the institutional, operational, and self-development domains. The current ASE product lines will require upgrades to training aids, devices, simulators, simulations, software, hardware, databases, and TSPs and be delivered by the materiel developer to aviation institutional base and ACOM sites as needed. The ASE training system interfaces with the LVCG-ITE. The objective is to link system and non-system virtual simulations into a fully integrated training capability reducing redundancy and increasing realism.

7.1.1.1 Training Information Infrastructure

7.1.1.1.1 Hardware, Software, and Communications Systems

7.1.1.1.2 Storage, Retrieval, and Delivery

Access and storage of RFCM training and information will be made available through one or more of the following locations:

- Training Development Capability (TDC) Database or its replacement
- The Army Learning Management System (ALMS)
- The Central Army Registry (CAR)
- The Digital Training Management System (DTMS)
- The Army Training Network (ATN)

7.1.1.1.3 Management Capabilities

7.1.1.1.4 Other Enabling Capabilities

7.1.1.2 Training Products

7.1.1.2.1 Courseware

7.1.1.2.2 Courses

7.1.1.2.3 Training Publications

7.1.1.2.4 TSP

7.1.1.3 TADSS

7.1.1.3.1 Training Aids

7.1.1.3.2 Training Devices

7.1.1.3.3 Simulators

Aviators require simulations that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. Key enablers for this vision are a network of common integrated training and operational Live, Virtual, Constructive, Gaming-Integrated Training Environment (LVCG-ITE) mission command centric capabilities at home station, combat training centers, and operations over-seas in permissive environments. Pilots need simulators to maintain proficiency in high risk tasks which would certainly include operating their ASE. PM-ASE will coordinate with the PMs for each simulator to initiate upgrades for the inclusion of RFCM. Examples of Operator Simulators that require modification to include RFCM capabilities include, but are not limited to the following:

- AH-64D (Blk I/II) Longbow Crew Trainer (LCT)
- AH-64E (Blk II/III) Longbow Crew Trainer (LCT)
- Longbow Collective Training System
- CH-47F Transportable Flight Proficiency Simulator (TFPS)
- CH-47D Synthetic Flight Training Simulator (SFTS)
- UH-60 A/L Synthetic Flight Training Simulator (SFTS)
- UH-60M Transportable Blackhawk Operational Simulator (T-BOS)

- Aviation Combined Arms Tactical Trainer (AVCATT)

Collective simulators must include an interactive and high SAF which models both the ASE and the effect of ASE on enemy systems. Simulators must use geo-specific terrain databases that achieve "fair-fight" interoperability level of fidelity. Achieving fair-fight interoperability will require correlation of terrain, weather, visualization objects databases, and Modeling and Simulation (M&S) fidelity. M&S fidelity is defined as "two or more simulations may be considered to be in a fair fight when differences in the simulation's performance characteristics have significantly less effect on the outcome of the conflict than actions taken by the simulation participants."

7.1.1.3.4 Simulations

7.1.1.3.5 Instrumentation

The live devices for RFCM training will be required to interface with Army Tactical Engagement Simulation System (Army TESS) Training to monitor and record the position, location, heading and weapon events. A Smart On-board Data Interface Module (SMODIM) provides each aircraft with a "kill" and "be killed" capability. The SMODIM processes and transmits data for monitoring and pairing of simulated aircraft weapon events.

If the aircraft is engaged, the SMODIM uses data bus signals from tactical sensors to decode and process the Real-Time Causality Assessment (RTCA) and transmit data back to the Mobile Command Center (MCC) ground station. Global Position System (GPS) and telemetry antennas are part of the Army TESS aircraft components. Once engaged, the SMODIM processes the ph/pk for an RTCA outcome and the TTM provides visual cues. The data is then transmitted by the SMODIM to the MCC on the ground through telemetry antenna.

Live RFCM training solutions will require a Multiple Integrated Laser Engagement System (MILES) implementation. Any instrumentation systems must interoperate with the Army Battlefield Command (ABCS) and provide data in a format recognized by the LVCG-ITE. Compatibility with the Digital Range Training System (DTRS) and the Training Instrumentation System (TIS) will be required to support Force on Force (FOF) and Force on Target (FOT) venues at homestation.

NOTE: SMODIM capabilities vary by aircraft. The AH-64D is currently the most capable. CH-47D and UH-60L do not have data buses so they are only capable of location/hit/kill. Door gun engagements are not tracked or captured. The OH-58D does not have a fully integrated SMODIM so weapons events are not currently transmitted. OH-58F, CH-47F, and UH-60M will have data buses and be able to provide more SMODIM output for use by hosting architectures (i.e., TIS, DRTS, CTCs). Additionally, SMODIMs are currently only available for UH-60 and CH-47 platforms at the CTCS. Efforts are ongoing to establish a homestation training capability and plan, however, there is no homestation capability at present.

7.1.1.4 Training Facilities and Land

Facility requirements for housing and maintaining the RFCM are the owning unit's responsibility and no new facilities are anticipated for the maintenance of the RFCM.

7.1.1.4.1 Ranges

Live fire ranges must include threat emitters to enable training task integration in crew qualification and collective gunnery events. Range requirements will be in accordance with the training aid being used to execute the training and any additional requirements based on use of countermeasures dispensed. Flares, for instance, will require a hard deck in fire prone regions, while chaff dispensing will have to be coordinated with local controlling agencies.

7.1.1.4.2 Maneuver Training Areas (MTA)

7.1.1.4.3 Classrooms

Any RFCM DL products will be developed to be compatible with the Army Distributed Learning Program (TADLP), Classroom XXI classrooms, Digital Training Facilities (DTFs) and Defense Information Systems Agency (DISA) infrastructure specifications. SIPR connectivity may be required to disseminate and display Classified information regarding RFCM capabilities, vulnerabilities, and limitations. Proper procedures for safeguarding this classified information must be in place.

7.1.1.4.4 CTCs

CTCs are facilities that provide realistic joint and combined arms training. There are three primary training centers.

- Combat Maneuver Training Center (CMTC)
- Joint Readiness Training Center (JRTC)
- National Training Center (NTC)

Homestation Instrumentation Training System (HITS) supports collective maneuver training for platoon-through-battalion units. HITS allows commanders to train at homestation in preparation for CTC rotations.

The RFCM will provide interfaces which allow the system to interoperate with the LVCG-ITE. The RFCM must interoperate with current systems such as the Multiple Integrated Engagement System (MILES), HITS, and the Combat Training Center-Instrumentation System (CTC-IS), future Army Target Engagement Simulation System (TESS), and Joint Engagement Simulation Systems (ESS).

7.1.1.4.5 Logistics Support Areas

7.1.1.4.6 Mission Command Training Centers (MCTC)

CTCs are facilities that provide realistic joint and combined arms training. There are three primary training centers.

- Combat Maneuver Training Center (CMTC)
- Joint Readiness Training Center (JRTC)
- National Training Center (NTC)

Homestation Instrumentation Training System (HITS) supports collective maneuver training for platoon-through-battalion units. HITS allows commanders to train at homestation in preparation for CTC rotations.

The RFCM will provide interfaces that allow the system to interoperate with TADSS and with current forces in a synthetic training environment that includes live, virtual, constructive, and gaming simulators/simulations. The RFCM must interoperate with current systems such as the Multiple Integrated Engagement System (MILES), HITS, and the Combat Training Center-Instrumentation System (CTC-IS), future Army Target Engagement Simulation System (TESS), and Joint Engagement Simulation Systems (ESS).

7.1.1.5 Training Services

7.1.1.5.1 Management Support Services

7.1.1.5.2 Acquisition Support Services

7.1.1.5.3 General Support Services

7.1.2 Architectures and Standards Component

7.1.2.1 Operational View (OV)

7.1.2.2 Systems View (SV)

7.1.2.3 Technical View (TV)

7.1.3 Management, Evaluation, and Resource (MER) Processes Component

Where possible, training capabilities developed to support RFCM will use existing facilities and support infrastructure. Training analyses in support of RFCM will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Commanders use a combination of LVCG-ITE to create a realistic training environment, optimize training time, and mitigate live resource shortfalls. While developed predominately for use in the self-development domain, computer-based ASE training will be designed in such a way that it can also be used to support training in the institutional and operational domains.

To determine how to best improve the quality and efficiency of instruction and training, students and instructors will be routinely asked to evaluate training events and products. This allows USAACE to provide the best quality of training with the least expenditure of resources.

7.1.3.1 Management

7.1.3.1.1 Strategic Planning

7.1.3.1.2 Concept Development and Experimentation (CD&E)

7.1.3.1.3 Research and Studies

7.1.3.1.4 Policy and Guidance

7.1.3.1.5 Requirements Generation

7.1.3.1.6 Synchronization

7.1.3.1.7 Joint Training Support

7.1.3.2 Evaluation

As part of the evaluation phase of the ADDIE process, Post Fielding Training Effectiveness Analysis (PFTEA) will be conducted. The purpose of this PFTEA will be to determine how effectively and efficiently RFCM training is meeting user training requirements. The findings will be used to provide lessons learned information on the training development effort associated with training systems and/or product improvement.

A PFTEA will be conducted within 18-24 months of fielding the weapon system. Funding requirements will be identified by USAACE to HQ TRADOC to support the PFTEA process.

7.1.3.2.1 Quality Assurance (QA)

7.1.3.2.2 Assessments

7.1.3.2.3 Customer Feedback

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

7.1.3.3 Resource Processes

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Manpower - TD</u>							
Contractor		N/A	160K	140K	140K	140K	140K
Civilian		N/A	40K	40K	20K	20K	20K
Enlisted		N/A	N/A	N/A	N/A	N/A	N/A
Warrant		N/A	N/A	N/A	N/A	N/A	N/A
Officer		N/A	N/A	N/A	N/A	N/A	N/A
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Civ Pay		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	10K	10K	10K	10K	N/A

Total		0	210K	190K	170K	170K	160K
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NOTE: NET/DET totals may include funding for more than one system. ASE is generally installed as a package and this funding stream is combined with all ASE systems.

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>New Equipment</u> <u>Training</u>							
Contractor		N/A	160K	160K	160K	160K	160K
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	40K	40K	40K	40K	40K
Classrooms		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
AC/DC Power		N/A	N/A	N/A	N/A	N/A	N/A

Printing		N/A	5K	5K	5K	5K	5K
Total		0	215K	215K	215K	215K	215K

Item Resourced	Prior Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Training</u> <u>Products</u>							
Training Pubs		N/A	N/A	N/A	N/A	N/A	N/A
TSP		10K	160K	160K	160K	160K	20K
IMI		35K	100K	35K	35K	35K	100K
ETM		N/A	N/A	N/A	N/A	N/A	N/A
STP		N/A	N/A	N/A	N/A	N/A	N/A

IETM		N/A	N/A	N/A	N/A	N/A	N/A
ARTEP/MTP		N/A	N/A	N/A	N/A	N/A	N/A
Printing		10K	10K	10K	10K	10K	10K
Distribution		10K	10K	10K	10K	10K	10K
Total		65K	280K	215K	215K	215K	140K

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>TADSS</u>							
Training Aids		N/A	N/A	N/A	N/A	N/A	N/A
Devices		300K	300K	300K	300K	65K	65K
Simulators		9M	100K	100K	100K	100K	100K

Simulations		N/A	N/A	N/A	N/A	N/A	N/A
GTA		N/A	N/A	N/A	N/A	N/A	N/A
Software		N/A	N/A	N/A	N/A	N/A	N/A
Trng Equip*		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
Printing		N/A	N/A	N/A	N/A	N/A	N/A
Shipment		N/A	20K	20K	20K	20K	5K
Sustainment		N/A	5K	5K	5K	5K	5K
Total		9.3M	435K	435K	435K	190K	185K

8.0 Self-Development Training Domain

8.1 Self-Development Training Concept and Strategy

This strategy applies to all RFCM operators and maintainers. Learning is a lifelong process. Institutional, operational, and self-development training alone cannot provide the insight, intuition, imagination and judgment needed in combat. This requires commanders at all levels to create an environment that encourages subordinates to establish personal and professional development goals. Further refinement of those interests should occur through personal mentoring by commanders and first line supervisors. Conduct of officer and NCO professional development programs are essential to leader development. Exploiting reach-back, distributed learning (DL), and continuing education technologies support these programs.

Current ASE self-development products will be augmented to include RFCM and prepared for common databases. DL products will be designed to support reuse within applicable courses and will be accessible on systems worldwide. Training repositories will be reachable from classrooms, remote locations, hardware platforms, and business environments IAW applicable Information Assurance requirements and protocols. Capabilities will exist to support operator, maintainer, commander, leader, and staff development by providing access and connectivity to all levels of Army and joint knowledge systems. Learning management systems will be available that provide the capability to manage career-paths, determine and plan future training requirements and track training. Learners must have the ability to access, retrieve, and complete secure, networked testing materials and assess areas of strengths and weaknesses.

8.1.1.1 Product Lines

The ASE product lines provide the capabilities that trainers and Soldiers need to conduct training in the operational and self-development domains. RFCM will use the existing ASE products lines that will require upgrades to training aids, devices, simulators, simulations, software, hardware, databases, and TSPs and be delivered by the materiel developer to aviation institutional base and ACOM sites as needed.

8.1.1.1 Training Information Infrastructure

All training products will be developed in compliance with Army Training Information Architecture (ATIA). Web-based courseware will be developed as Sharable Content Object Reference Model (SCORM) compliant and playable in a Microsoft Internet Explorer browser, referred to as IE browser, which can be found on the Army Golden Master page on Army Knowledge Online (AKO). Courseware should also be playable in Distributed Learning System (DLS) Digital Training Facilities (DTFs) and classroom XXIs. Any RFCM DL products will be developed to be compatible with the Army Distributed Learning Program (TADLP) and Defense Information Systems Agency (DISA) infrastructure specifications.

8.1.1.1.1 Hardware, Software, and Communications Systems

8.1.1.1.2 Storage, Retrieval, and Delivery

Access and storage of RFCM training and information will be made available through one or more of the following locations:

- Training Development Capability (TDC) Database or its replacement
- The Army Learning Management System (ALMS)
- The Central Army Registry (CAR)
- The Digital Training Management System (DTMS)
- The Army Training Network (ATN)

8.1.1.1.3 Management Capabilities

8.1.1.1.4 Other Enabling Capabilities

Interoperability and data exchange as required by the Training Support System (TSS) will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the LVCG-ITE to support the primary components of the TSS Training Information Infrastructure (TII). Additionally, the capability for common communications and data exchange operating environment integral to Brigade Combat Team Modernization (BCTM) would be incorporated into the system.

8.1.1.2 Training Products

RFCM training systems will require that upgrades to software, hardware, databases, and TSPs be delivered by the Materiel Developer to aviation sites as needed for the lifecycle of the system.

8.1.1.2.1 Courseware

The Materiel Developer will provide a RFCM multi-media training support package (TSP) that can be used to support institutional training at the 128th Avn Bde/USAACE, unit sustainment training, and self-development training. The PM will also be responsible for upgrading the TSP to reflect engineering changes to RFCM. The TRADOC developed TTSP package will detail the concept of operations, effects on mission planning, capabilities and limitations of the equipment, and broadcast declarations received by the system.

8.1.1.2.2 Courses

8.1.1.2.3 Training Publications

The publications for self development training will include Army Doctrine Publications (ADPs), Army Doctrine Reference Publications (ADRs), Field Manuals (FMs), Training Circulars (TCs), Training Manuals (TMs), Technical Bulletin Orders, and Soldier Training Publications (STPs) required to support the ASE training program. Those publications are defined in paragraph 6.1.1.2.3.

8.1.1.2.4 Training Support Package (TSP)

8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)

8.1.1.3.1 Training Aids

8.1.1.3.2 Training Devices

8.1.1.3.3 Simulators

8.1.1.3.4 Simulations

8.1.1.3.5 Instrumentation

8.1.1.4 Training Facilities and Land

8.1.1.4.1 Ranges

8.1.1.4.2 Maneuver Training Areas (MTA)

8.1.1.4.3 Classrooms

Current, standard 20-person classroom will be used for RFCM training. Since RFCM training will be included in current ASE training, existing classrooms will be used.

8.1.1.4.4 CTCs

8.1.1.4.5 Logistics Support Areas

8.1.1.4.6 Mission Command Training Centers (MCTC)

8.1.1.5 Training Services

8.1.1.5.1 Management Support Services

8.1.1.5.2 Acquisition Support Services

8.1.1.5.3 General Support Services

8.1.2 Architectures and Standards Component

Architectures and standards will provide the means to ensure integration and interoperability across product lines to support the RFCM.

Architectures are the structure of RFCM training components, their relationship, and the principles and guidelines governing their design and evolution over time. They will be the framework that describes missions, organizations, and systems; specifies interfaces and interrelationships amongst its various parts; and facilitates coordination and synchronization with internal and external interfaces. The RFCM training system will be integrated into three types of architectures-organization, functional, and systems-each of which may have operational, technical, and systems views.

8.1.2.1 Operational View (OV)

8.1.2.2 Systems View (SV)

8.1.2.3 Technical View (TV)

8.1.3 Management, Evaluation, and Resource (MER) Processes Component

Where possible, training capabilities developed to support RFCM's self-development training and staff training will use existing facilities and support infrastructure. The staff training estimate in support of the RFCM will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used both in the institutional, operational and self-development training domains and focused only on mission critical tasks. Training will incorporate the maximum use of simulators/simulation when available to mitigate cost and risk.

8.1.3.1 Management

8.1.3.1.1 Strategic Planning

8.1.3.1.2 Concept Development and Experimentation (CD&E)

8.1.3.1.3 Research and Studies

8.1.3.1.4 Policy and Guidance

8.1.3.1.5 Requirements Generation

8.1.3.1.6 Synchronization

8.1.3.1.7 Joint Training Support

8.1.3.2 Evaluation

A formal evaluation will be conducted after the training system has been in the field for a sufficient time for sustainment/self development training program to stabilize. Typically, this would be within 12-24 months after the initial fielded unit is operationally capable, or when problems are reported (e.g., high attrition course rates or ACOM complaints). This evaluation will determine the computer-based Aircraft Survivability Equipment (CBAT) training program's cost and effectiveness for the fielded system. Specific areas in the evaluation process include positive and negative aspects of operator and maintainer training, comparison of actual costs to projected costs for all training systems, relationships between sustainment training and Soldier proficiency, needed improvements to training in terms of cost, time, and effectiveness and Soldiers' perception of training at the service school and at the units.

8.1.3.2.1 Quality Assurance (QA)

8.1.3.2.2 Assessments

8.1.3.2.3 Customer Feedback

8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

8.1.3.3 Resource Processes

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Manpower - TD</u>							
Contractor		N/A	160K	140K	140K	140K	140K
Civilian		N/A	40K	40K	20K	20K	20K
Enlisted		N/A	N/A	N/A	N/A	N/A	N/A
Warrant		N/A	N/A	N/A	N/A	N/A	N/A
Officer		N/A	N/A	N/A	N/A	N/A	N/A
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Civ Pay		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	10K	10K	10K	10K	N/A

Total		0	210K	190K	170K	170K	160K
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NOTE: NET/DET totals may include funding for more than one system. ASE is generally installed as a package and this funding stream is combined with all ASE systems.

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>New Equipment</u> <u>Training</u>							
Contractor		N/A	160K	160K	160K	160K	160K
Contract/Spt		N/A	N/A	N/A	N/A	N/A	N/A
Trvl/Per Diem		N/A	40K	40K	40K	40K	40K
Classrooms		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
AC/DC Power		N/A	N/A	N/A	N/A	N/A	N/A

Printing		N/A	5K	5K	5K	5K	5K
Total		0	215K	215K	215K	215K	215K

Item Resourced	Prior Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>Training</u> <u>Products</u>							
Training Pubs		N/A	N/A	N/A	N/A	N/A	N/A
TSP		10K	160K	160K	160K	160K	20K
IMI		35K	100K	35K	35K	35K	100K
ETM		N/A	N/A	N/A	N/A	N/A	N/A
STP		N/A	N/A	N/A	N/A	N/A	N/A

IETM		N/A	N/A	N/A	N/A	N/A	N/A
ARTEP/MTP		N/A	N/A	N/A	N/A	N/A	N/A
Printing		10K	10K	10K	10K	10K	10K
Distribution		10K	10K	10K	10K	10K	10K
Total		65K	280K	215K	215K	215K	140K

Item Resourced	Prior	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
<u>TADSS</u>							
Training Aids		N/A	N/A	N/A	N/A	N/A	N/A
Devices		300K	300K	300K	300K	65K	65K
Simulators		9M	100K	100K	100K	100K	100K

Simulations		N/A	N/A	N/A	N/A	N/A	N/A
GTA		N/A	N/A	N/A	N/A	N/A	N/A
Software		N/A	N/A	N/A	N/A	N/A	N/A
Trng Equip*		N/A	N/A	N/A	N/A	N/A	N/A
Equipment		N/A	10K	10K	10K	10K	10K
Printing		N/A	N/A	N/A	N/A	N/A	N/A
Shipment		N/A	20K	20K	20K	20K	5K
Sustainment		N/A	5K	5K	5K	5K	5K
Total		9.3M	435K	435K	435K	190K	185K

A Milestone Annex

<p align="center">TRAINING DEVELOPMENT MILESTONE SCHEDULE</p>					<p>PAGE OF PAG 1</p>			
<p>SYSTEM RFCM</p>					<p>OFFICE SYMBOL: ATZQ-TDD-0</p>			
<p>Training Package Element/Product</p>	<p align="right">MILEST</p>							
	<p align="center">FY 13</p>				<p align="center">FY 14</p>			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	
Initial ITP completed								
Annotated Task List completed								
Individual CAD completed								
Collective CAD completed								
TPW completed								
ITP completed								
POI completed								
IMI requirements approved								

Courseware developed/validated								
TADSS needs established								
NET begins								
Resident courses begin								
PFTEA completed								
TADSS effectiveness validated								

NOTE: Identify **TRAINING DEVELOPMENT MILESTONES** . TRADOC FORM 569-1-R-E provides products required to support system training integration.

COMMENTS:

B References

STRAP References

Memorandum, AMCMP-CATT, 18 May 1995, subject: Combined Arms Tactical Trainer

Memorandum, ATIC-DM, 27 March 2000, subject: Operational Requirements Document (ORD) for the Aviation Combined Arms Tactical Trainer and Aviation Reconfigurable Manned Simulator (AVCATT-A), CARD #05029

Operational Requirements Document (ORD), 28 January 1999

Initial Capabilities Document (ICD), 15 March 2004

Capability Development Document (CDD) Version 9.0, 25 September 2005

Capability Production Document (CPD) (Draft)

The following is a list of references utilized in the production of this publication:

ADP 1 The Army; 27 September 2012

ADP 7-0 Training Units and Developing Leaders; 23 August 2012

ADRP 7-0 Training Units and Developing Leaders; 23 August 2012

FM 3-04.111 Aviation Brigades; 7 December 2007

FM 3-04.140 CHG 1 Helicopter Gunnery; 17 April 2006

FM 3-04.513 Aircraft Recovery Operations; 21 July 2008

FM 1-564 Shipboard Operations; 29 June 2007

TC 3-04.93 Aeromedical Training for Flight Personnel; 31 August 2009

TC 3-04.7 Army Aviation Maintenance; 2 February 2010

TC 3-04.72 Aviation Life Support System Management Program; 15 October 2009

TP 525-8-2 W/C1 The Army Learning Model; 6 June 2011

C Coordination Annex

Organization/POC (Date)	Summary of Comments Submitted (A/S/C)			Comments Accepted/ Rejected						Rationale for Non-Acceptance - S, C
				Accepted			Rejected			
	A	S	C	A	S	C	A	S	C	
v2.2.2 James E Baker 2014/04/15 - 2014/04/30	Document Accepted As Written			0	0	0	0	0	0	-
v2.2.1 Approvals - Michael P Donohue 2014/04/11 - 2014/04/21	Document Accepted As Written			0	0	0	0	0	0	-
v2.2.1 Approvals - Robert A Story 2014/04/11 - 2014/04/21	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - USASOC 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - USAREUR 2013/05/01 - 2013/05/31	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - USARC G7 (US Army Reserve Cmd) 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - USAACE - Aviation School 2013/05/01 -	Document Accepted As			0	0	0	0	0	0	-

2013/05/31	Written							
v2.2 Army - TRADOC_ARCIC 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-
v2.2 Army - TRADOC G-3/5 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-
v2.2 Army - TRADOC Command Safety Office 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-
v2.2 Army - TCM-Virtual (CS/CSS) 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-
v2.2 Army - TCM-Live 2013/05/01 - 2013/05/31	Document Accepted As Written	0	0	0	0	0	0	-
v2.2 Army - TCM-Gaming 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-
v2.2 Army - TCM TADLP 2013/05/01 - 2013/05/31	Document Accepted As Written	0	0	0	0	0	0	-
v2.2 Army - TCM ATIS 2013/05/01 - 2013/05/31	No Comments Submitted	0	0	0	0	0	0	-

v2.2 Army - PM Fixed Wing 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - PEO-STRI Customer Support Group 2013/05/01 - 2013/05/31	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - PEO Aviation 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - MCoE - Infantry & Armor School 2013/05/01 - 2013/05/31	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - HQDA G2 - Alternate POC 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - HQDA G2 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - Combined Arms Center 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - CAC-T; Training Management	4	28	0	4	26	0	0	2	0	

Dir 2013/05/01 - 2013/05/31										
v2.2 Army - AVNCoE Aviation Logistics School 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - ATSC TSAID 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - ATSC Fielded Devices 2013/05/01 - 2013/05/31	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - ATSC 2013/05/01 - 2013/05/31	6	4	4	6	4	4	0	0	0	
v2.2 Army - Army National Guard 2013/05/01 - 2013/05/31	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TCM TADLP 2013/02/20 - 2013/03/15	1	0	0	0	0	0	1	0	0	
v2.1 Peer - ATSC 2013/02/05 - 2013/03/07	7	9	0	7	9	0	0	0	0	
v2.1 Peer - USASOC 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - USARSO										

G3 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - USAACE - Aviation School 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TRADOC_ARCIC 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TCM-Virtual (CS/CSS) 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TCM-Live 2013/01/28 - 2013/03/01	1	8	0	1	8	0	0	0	0	
v2.1 Peer - TCM-Gaming 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TCM dL 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - TCM ATIS 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - PEO-STRI Customer	0	1	0	0	1	0	0	0	0	

Support Group 2013/01/28 - 2013/03/01										
v2.1 Peer - HQDA G3, SPCD 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - HQDA G2 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - FORSCOM/TRADOC LNO 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - FORSCOM G3 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - FORSCOM G2 2013/01/28 - 2013/03/01	Document Accepted As Written			0	0	0	0	0	0	-
v2.1 Peer - FORSCOM 2013/01/28 - 2013/03/01	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - CAC-T; Training Management Dir 2013/01/28 - 2013/03/01	3	25	0	3	25	0	0	0	0	
v2.1 Peer - BCT CoE - Fort Jackson, SC 2013/01/28 -	No Comments Submitted			0	0	0	0	0	0	-

2013/03/01								
v2.1 Peer - AVNCoE Aviation Logistics School 2013/01/28 - 2013/03/01	No Comments Submitted	0	0	0	0	0	0	-

Key
Completed Review with Comments
Completed Review, No Comments
Active Review Occurring


ATZQ-TD

APR 16 2014

MEMORANDUM FOR RECORD

SUBJECT: Approval of the System Training Plan (STRAP) for the Radio Frequency Countermeasures (RFCM), Increment II, Version 2.2

1. Reference: System Training Plan Version 2.2, Radio Frequency Countermeasures.
2. The STRAP for the Radio Frequency Countermeasures is approved. Approved STRAP will be posted to the Central Army Registry (CAR) website. This STRAP can be found at the following web address: <http://www.adtdl.army.mil/>.
3. The USAACE DOTD POC for this action is: Mr. Andrew Lecuyer, 334-255-2584 DSN (558) email: andrew.b.lecuyer.civ@mail.mil, U.S. Army Aviation Center of Excellence, ATTN: ATZQ-TDT-N, Fort Rucker, AL 36362-5202.


JAMES E. BAKER, JR.
Colonel, Aviation
Director of Training and Doctrine

Approval Memorandum